

| Sl. No. | DD Specification | Parameters required | Compliance (Yes/No) | Parameters of the equipment offered. | Deviations, in case of non-compliance | Optional items if any required to make the system Compliant to DD specs. | Features in the system offered which exceed DD specs. |
|----------|--|---------------------|---------------------|--------------------------------------|---------------------------------------|--|---|
| 1 | SCOPE: | | | | | | |
| a) | The specification aims at the procurement of Analog Addressable Early Fire Alarm System (FAS) for Doordarshan Kendra, Chennai. | | | | | | |
| b) | The offered system should be of reputed make, meeting the specification and field proven. The OEM/bidder should enclose the client list and the contact details where similar installation has been carried out. Local service support must be available for optimum upkeep of the system. | | | | | | |
| c) | The tentative quantity of each item required is mentioned in the Indicative BOM. The bidder must quote the unit price for each item including the cable & laying charges per meter separately. However, the exact quantities of each item required for the complete installation will be finalized after receiving the detailed recommendations from the successful bidder. | | | | | | |
| d) | All components and devices of Fire Alarm shall be either products of a single manufacturer or their compatibility is guaranteed by the bidder. | | | | | | |
| e) | In order to ensure a substantial useful life of the components and devices of FAS, the supplied products shall have their manufacturing dates within six months prior to placement of purchase order. The original manufacturer's label containing the make, model no., serial number, batch number, date of manufacturing and certification mark shall be preserved carefully so that originality, genuineness, newness and certification could be verified. | | | | | | |
| f) | The bidder should Design, Supply, Install Test and Commission an addressable intelligent Early Fire Detection & Alarm System. | | | | | | |
| A | Supply: | | | | | | |
| | The supply of the item shall be exactly as per the list of materials in the specification attached as BOM and list of spares. However, the spares list will also contain recommended spare parts from supplier. The supplying of FAS includes the following accessories and associated materials/ items: | | | | | | |
| i | Fire controller panel, | | | | | | |
| ii | Thermal/Smoke detectors, | | | | | | |
| iii | Manual Call points | | | | | | |
| iv | Sounder Beacons and | | | | | | |
| v | 1.5 sq mm 2-core, 16 strands, twisted pair, FRLS cables (All cables shall be supplied without any joints.) | | | | | | |
| B | Installation: | | | | | | |
| | After placement of Purchase Order the supplier's representative shall visit the site immediately and give final recommendation on the installation of detectors to be placed in various locations and should supply a loop drawing indicating details of various devices in the loops and suggest layout of cables. The responsibility of connecting the devices in the loops with required connectors and cables lies with the supplier. The supplier shall take approval of the Indenting officer for the drawing and install the detectors, control panel, and other components connected to the system as per approved drawing. The Installation of the above mentioned items will be in the following areas of Doordarshan Kendra, Chennai: | | | | | | |
| i | Administrative Block (Ground, 1 st , 2 nd & 3 rd floor) | | | | | | |
| ii | Technical areas of Main building including Studio 1, Studio 2, MSR, CAR, PCR's, Telecine & Transmitter etc. | | | | | | |
| iii | Technical areas of Annex building including Studio 3, Studio 4, CAR, PCR's, IT room, Edit suites, etc. | | | | | | |
| C | Testing & commissioning: | | | | | | |
| | Supplier shall prepare a commissioning procedure for approval by the purchaser and test and commission the system as per approved procedure for working as given in section-B. | | | | | | |
| g) | Certain area of this office like Annex building (2 nd channel) is already wired for conventional Fire Alarm System. Hence, the bidder while designing should study the suitability of the existing cabling in that Annex building and if meets the present requirement shall retain and use the existing cabling in that particular area. | | | | | | |
| h) | The firm has to bring all necessary equipments, tools, tackles, ladders, suitable manpower for installation, testing and commissioning. | | | | | | |
| i) | The scope includes all minor civil works like opening the wall/chasing in the wall required to be made for the installation. These associated works shall be made excellently and finished in appropriate manner. | | | | | | |
| j) | The bidder should offer a synoptic panel and shall be installed at the security post. Necessary wiring shall be done from panel to the synoptic panel to provide fire indication with red LED, fault with yellow blinking LED and healthy condition with green LED. The size of the synoptic shall be A-1 size prominently displaying the status of the zoned fire alarm. There shall be powder coated MS sheet of 20 SWG with front cover of transparent acrylic sheet with proper support. There shall be duplicate LEDs for each set of indication, i.e., fire, fault and healthy indication. | | | | | | |
| 2 | ESSENTIAL FEATURES: | | | | | | |

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| 2.1 | Fire alarm control panel (FACP) | | | | | | |
| a) | The bidder should offer a FACP supporting 4-loop system and required number of addressable devices suitable for our office. The number of loops should be suitably decided to connect all the addressable devices. | | | | | | |
| b) | The fire alarm control panel shall be password protected, analogue addressable type which works primarily on a built-in 230 volts AC power supply and also supported by standby SMF battery back up with in built battery charger. | | | | | | |
| c) | The control panel enclosure should be rugged and made of powder coated CRCA sheet. | | | | | | |
| d) | The control panel shall have backlit LCD display to depict the Real Time Clock, date, month & year, system settings, temperature and location wise fault indications. In addition, the system should be equipped with audio visual indicator for faults within the panel. | | | | | | |
| e) | The control panel shall have front panel programmable user function keys and reset switch. The control panel shall have provision to configure using front panel keys without using PC. | | | | | | |
| f) | The control panel shall have internal event logging facility and also should be accessible by an external PC/Laptop and hence the system should be supplied with PC configuration software. | | | | | | |
| g) | The control panel shall have provision to scan, detect and give alert indication for contaminated detectors and missing devices. | | | | | | |
| h) | The bidder shall not exceed 80% of the devices from the manufacturer's recommendation. 20% shall be kept spare for the addition/alteration for future use, as well as for safety. | | | | | | |
| 2.2 | Addressable optical smoke detector/heat detector | | | | | | |
| a) | The offered optical smoke detector shall be of electronic analogue addressable type operating on light scatter principle. The entire components used in detector shall be protected from corrosion. | | | | | | |
| b) | The electronic analogue addressable heat detector shall have external mounted linear thermistor which provides accurate temperature measurement data to the control panel. | | | | | | |
| c) | The detectors shall have an integral microprocessor capable of making alarm decision based on alarm level set (sensitivity) and facilitate reading from the control panel for remotely checking health of the detector, alarm level setting. Latching the detector, isolating the detector from the control panel shall also be possible. | | | | | | |
| d) | The detector sensing chamber shall be easily removable for cleaning and maintenance purpose. The deposited dirt or similar contamination on the sensing chamber shall be continually monitored by control panel, when it exceeds predetermined level, the panel has to indicate that the detector is in need of servicing. | | | | | | |
| e) | The detector and base construction shall be made of polycarbonate plastic and all the contact components including fasteners shall be either SS or brass. | | | | | | |
| 2.3 | Addressable manual call point | | | | | | |
| a) | The double action type manual call points shall be of press glass type. The enclosure shall be made of ABS or Polycarbonate. It shall be of aesthetically designed, suitable for flush/surface mount. | | | | | | |
| b) | The manual call point shall be provided with transparent protective flip cover. Protective flip cover shall be made of strong unbreakable polycarbonate. | | | | | | |
| c) | The manual call point shall be of re-settable type preferably directly from the panel, without the requirement for replacing the glass. | | | | | | |
| 2.4 | Addressable loop powered Sounder Beacon | | | | | | |
| a) | The addressable loop powered Sounder Beacon made of polycarbonate plastic shall have integral beacon within horn which generates different tones for alert and evacuation purposes. | | | | | | |
| b) | The sounder beacon sound pressure level shall be 85 dB at 10ft. | | | | | | |
| 2.5 | Addressable short circuit isolator | | | | | | |
| a) | The addressable short circuit isolator shall provide short circuit protection in the SLC loop and isolate the segment. | | | | | | |
| b) | b) The short circuit isolator can be part of detector bases or built in to the detector. | | | | | | |
| c) | In case of class A wiring, closest isolators to the left and right of the shorted section shall be disabled. Remaining devices shall function and in case of class B wiring, all the devices beyond the shorted section shall be disabled. | | | | | | |
| d) | The isolator shall restore automatically, immediately when the short circuit fault is rectified. | | | | | | |
| 2.6 | Addressable control module/monitor module | | | | | | |
| a) | The addressable control module shall provide potential free changeover contacts for various applications like tripping of AHU, deactivating Access control, switching ON Smoke exhaust fan & Fire exit lights, etc. | | | | | | |
| b) | The control module can be used to drive conventional high decibel hooter, siren. | | | | | | |
| c) | The control module shall operate from SLC loop power. No external power/cable shall be used. | | | | | | |
| d) | The addressable monitor module shall monitor free changeover contacts from various applications. | | | | | | |

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| 2.7 | Auto Dialer | | | | | | |
| a) | An auto-dialer is an electronic device that can automatically dial telephone numbers to communicate between any two points in the telephone, mobile phone networks. Once the call has been established the autodialer will announce verbal messages to the called party. We need dial tone connection for the autodialer. It should not be with EPABX system. | | | | | | |
| b) | 16 x 2 LCD for easy programming, 16 keys multifunction soft touch key pad, 60 second message storage, and 10 telephone numbers storage facility. 15 digit length telephone number to store cell phone numbers and STD numbers. | | | | | | |
| c) | The Product: Auto Dialer is an Electronic Device which alerts through phone / cell by playing the pre – recorded message. | | | | | | |
| d) | Voice Message: 60 seconds recorded message in any language includes a common message to describe the location and short message to describe the alarm event. | | | | | | |
| e) | Non-volatile memory for message storage and telephone number storage. | | | | | | |
| f) | The Auto dialler unit shall function with 24 V DC volts operation | | | | | | |
| 2.8 | PC CONFIGURATION SOFTWARE | | | | | | |
| a) | The Addressable fire panel shall be supplied with user friendly PC configuration software to enable easy configuration of the system. | | | | | | |
| b) | The minimum recommendation for the system control PC shall be clearly specified in the offer. The Control panel should have USB direct connectivity or suitable USB converter should be offered. | | | | | | |
| c) | The software should have program to scan, read & configure the variable parameters of the various addressable devices connected in the loops. | | | | | | |
| d) | The software shall have provision to download event logging history report to read/print. | | | | | | |
| e) | PC configuration software shall be provided to zone/device location text to enter/read/edit and upload /download to control panel | | | | | | |
| 2.9 | PC Graphics software | | | | | | |
| a) | The graphics software should be integrated with fire alarm system to provide clear & precise real-time information of alarm on PC workstation with use of text, floor & map. | | | | | | |
| b) | The graphics software makes easy for the user to locate the affected area and enable them to make efficient response to emergency. | | | | | | |
| c) | The software shall constantly monitor incoming alarm/trouble data and in case of alarm/trouble the particular floor plan shall pop-up automatically and the respective triggered device shall flash with change of colour. | | | | | | |
| d) | The software shall have provision to add, edit and zoom in and out the floor plan. It shall permit the user to use floor plan/map in the format of bitmap (.bmp), JPEG, gif. | | | | | | |
| e) | The software shall have password protection feature to allow only authorized personnel to login/logout/change password. | | | | | | |
| f) | The vendor shall clearly specify the minimum hardware requirements for the PC in the offer. | | | | | | |
| g) | The software shall record event-logs, history with time & date and shall have option to print real-time events for operation. | | | | | | |
| 3 | TECHNICAL SPECIFICATION | | | | | | |
| a) | The design, supply, installation, testing & maintenance of entire analogue addressable fire detection and alarm system shall confirm to National Building Code of India – Part 4, IS 2189, BS:5839 or NFPA 71/72 and ensure optimum efficiency of smoke detection coverage commensurate with aesthetics and practical constraints. The cables used for the FAS should meet the latest revisions of the following standards: | | | | | | |
| | IS: 694: Specification for PVC insulated electric cables. | | | | | | |
| | IS: 5608: Specification for Low frequency wires and cables with PVC insulation PVC and sheath. | | | | | | |
| | IS: 5831: PVC insulation and sheathing for electrical cables. | | | | | | |
| | IS: 10810: Method of test for cables. | | | | | | |
| | IS: 1554 Part –1 1988 and IS: 10810 and IS: 5831-1984 for insulation for testing | | | | | | |
| b) | All system components like detectors, MCP, sounders, alarm control panel shall confirm to UL, FM, FOC, LPCB, IS and tested & certified any of the reputed laboratories like UL, FM, LPCB, ETDC, ERTL & DGQA . | | | | | | |
| c) | The offered Early Fire Alarm system shall be compatible with LAN network. | | | | | | |
| d) | Primary power supply for the control panel shall be 230V AC, 50Hz and stand-by power supply shall be of SMF battery. | | | | | | |
| e) | Shall give a minimum back-up of 48 hours in normal condition & 30 minutes at alarm condition. Battery calculation sheet shall be provided with user manual. Suitable standard battery calculation formula sheet shall be given with user manual for future expansion. | | | | | | |

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| | 3.1 Fire alarm control panel (FACP) | | | | | | |
| i | No. of Loops in Panel | : Four Loops | | | | | |
| ii | Enclosure material | : Powder coated CRCA sheet of 16 gauge | | | | | |
| iii | Primary Power Supply | : 220V ±10% AC, 50Hz | | | | | |
| iv | Secondary Supply | : 24V DC | | | | | |
| v | System Voltage | : 24V DC | | | | | |
| vi | Operating Current | : 95mA or better | | | | | |
| vii | Alarm Current | : 250 mA or better | | | | | |
| viii | Software required | : Configuration & Graphics software | | | | | |
| | 3.2 Addressable optical smoke detector | | | | | | |
| i | Operating Voltage | : 12V to 27V DC | | | | | |
| ii | Material | : Polycarbonate plastic | | | | | |
| iii | Max. Standby Current | : 80 µA or better | | | | | |
| iv | Alarm Current | : 20 mA or better | | | | | |
| v | Operating Temperature | : -20°C to +60°C | | | | | |
| vi | Humidity (non-condensing) | : 5 to 95% Relative | | | | | |
| | 3.3 Addressable heat detector | | | | | | |
| i | Operating Voltage | : 12V to 27V DC | | | | | |
| ii | Material | : Polycarbonate plastic | | | | | |
| iii | Max. Standby Current | : 80 µA or better | | | | | |
| iv | Alarm Current | : 20 mA or better | | | | | |
| v | Operating Temperature | : -20°C to +60°C | | | | | |
| vi | Humidity (non-condensing) | : 5 to 95% Relative | | | | | |
| | 3.4 Addressable manual call point | | | | | | |
| i | Operating Voltage | : 12V to 27V DC | | | | | |
| ii | Material | : ABS or Polycarbonate | | | | | |
| iii | Max. Standby Current | : 5 µA or better | | | | | |
| iv | Alarm Current | : 20 mA or better | | | | | |
| v | Operating Temperature | : -20°C to +60°C | | | | | |
| vi | Humidity (non-condensing) | : 5 to 95% Relative | | | | | |
| | 3.5 Addressable loop powered Sounder Beacon | | | | | | |
| i | Power Source | : Loop Powered | | | | | |
| ii | Operating Voltage | : 12V to 27V DC | | | | | |
| iii | Alarm Output | : 85 dB or more | | | | | |
| iv | Max. Standby Current | : 5 mA or better | | | | | |
| v | Alarm Current | : 40 mA or better | | | | | |
| vi | Operating Temperature | : -20°C to +60°C | | | | | |
| vii | Humidity (non-condensing) | : 5 to 95% Relative | | | | | |
| | 6 PRICE | | | | | | |
| | The tenderer must quote separately item wise unit price for all the items that constitutes the system. Prices of all optional items essentially required for the completeness of the system should also be quoted separately. Payment conditions will be as per the General Terms & Conditions mentioned in Annexure – II. | | | | | | |
| 7 | SPARES | | | | | | |

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| | The tenderer should quote for all the essential spares that are required for the smooth functioning of the system for at least two years after the guarantee period is over. | | | | | | |
| 8 | DOCUMENTATION | | | | | | |
| | One set of the technical literature/ leaflet for all the items quoted in the bill of quote should be enclosed along with the tender for technical evaluation. Offers without the necessary literature/ leaflet for evaluation will be rejected with sole responsibility of the tenderer. The successful tenderer has to supply two sets of printed user manual along with as erected drawing, along with the equipment. One set of soft copy in the form of CD or DVD. Separate user software CD for panel programming shall be provided. No extra payment shall be made for documentation. If required shall be quoted by the vendor at the time of tendering itself. | | | | | | |
| 9 | GUARANTEE | | | | | | |
| | The equipment should be guaranteed for two years of trouble free operation from the date of commissioning. Any failure within two years after the delivery of equipment should be replenished free of cost. | | | | | | |
| 10 | AMC | | | | | | |
| | The supplier shall furnish the Annual Maintenance contract charges along with terms & conditions which will come into effect after the completion of Warranty period. The cost comparison of offers will be done on the basis of sum of total cost of FAS (with two year warranty period) and total AMC cost for 2 years. However, it should be noted by the supplier that AMC shall not be awarded in the present Purchase Order. | | | | | | |
| 11 | INSPECTION | | | | | | |
| | The equipment shall be subjected to inspection before & after installation by officials of DDK, Chennai. | | | | | | |
| 12 | ENCLOSURES | | | | | | |
| | The firm must submit the following enclosures along with the tender to facilitate technical evaluation. | | | | | | |
| a) | Point to point compliance statement duly signed by the OEM. | | | | | | |
| b) | Technical manuals/Detailed technical literature/catalogues for all the offered items of the product, for substantiating the technical specification. | | | | | | |
| c) | Major Client list of the offered product/system in India. | | | | | | |
| d) | Any other document mentioned elsewhere in the tender document. | | | | | | |
| | The tender is liable to be rejected in the absence of the above enclosures with the sole responsibility of the tenderer. | | | | | | |